

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1 to 17. (canceled)

18. (original) A method to decrease emissions of nitrogen oxide and mercury while decreasing carbon in fly ash, comprising:

selecting a combination of factors from the group consisting of fuel type, fuel staging, air staging and a combustion condition to control a combustion process to generate a flue gas comprising fly ash with enhanced unburned carbon;

controlling the combustion process according to the factors to produce the flue gas comprising fly ash with enhanced unburned carbon, NO_x and vaporized mercury;

removing NO_x from the flue gas;

allowing the flue gas to cool to a lower temperature to collect fly ash with absorbed mercury;

passing the fly ash with absorbed mercury through an ash burnout unit to remove carbon from the fly ash and to produce a mercury-containing exhaust gas; and

passing the mercury-containing exhaust gas through a collection unit to capture the mercury.

19 to 25. (canceled)

26. (previously presented) The method of claim 18, comprising controlling the combustion process to produce a fly ash containing about 1 to about 30 weight percent carbon.

27. (previously presented) The method of claim 18, comprising controlling the

combustion process to produce a fly ash containing 3 to 20 weight percent carbon.

28. (previously presented) The method of claim 18, controlling the combustion process to produce a fly ash containing 5 to 15 weight percent carbon.

29. (previously presented) The method of claim 18, comprising allowing the flue gas to cool to a temperature below 450° F.

30. (previously presented) The method of claim 18, comprising allowing the flue gas to cool to a temperature below 400° F.

31. (previously presented) The method of claim 18, comprising allowing the flue gas to cool to a temperature below 350° F.

32. (previously presented) The method of claim 18, wherein the combination of factors comprises at least one fuel staging or air staging factor comprising forming fuel-lean and fuel-rich zones

33. (previously presented) The method of claim 18, comprising removing NO_x from the flue gas by a low NO_x combustion technology.

34. (previously presented) The method of claim 18, comprising removing NO_x from the flue gas by a technology selected from low NO_x burning, reburning, air staging, fuel-lean reburning and overfire air injection.

35. (previously presented) The method of claim 18, comprising removing NO_x from the flue gas by forming a fuel-lean zone and a fuel-rich zone by injection of solid fuel into a post combustion zone.

36. (previously presented) The method of claim 18, wherein the flue gas is generated from combustion of solid fuel.

37. (previously presented) The method of claim 18, wherein the flue gas is generated from combustion of a solid fuel selected from coal, biomass, waste product and combinations thereof.

38. (previously presented) The method of claim 18, comprising selecting a factor from the group consisting of amount of reburning fuel, flue gas temperature and OFA injection.